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ABSTRACT

Based on a survey of the characteristics of unemployed aerospace workers, this is the second of two reports developed to suggest alternate job opportunities in private industry for unemployed aerospace engineers and scientists. Included in the brief summaries of 70 jobs found in private industry are general, basic requirements and kinds of industries where the jobs are located. The information in the job summaries was secured from the "Dictionary of Occupational Titles" and from company records. A report containing summaries of job opportunities in the government is available as VT 019 962 in this issue. (SB)

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ALTERNATE JOBS FOR AEROSPACE WORKERS

EXAMPLES OF
EMPLOYMENT OPPORTUNITIES IN PRIVATE INDUSTRY

PREPARED BY
OCCUPATIONAL ANALYSIS FIELD CENTER

MARCH 1972

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ACKNOWLEDGEMENTS

The information contained in this report was gathered and organized by A. M. Leslie Draper, occupational analyst, of the California Occupational Analysis Field Center. All of the material presented was either gathered from employers or was confirmed by them to reflect jobs in their organizations or known by them to exist in some quantity in other organizations. Much time and help was given, without which the entire project would have been impossible. It is to this group of employers and employer representatives that we owe our thanks for time, care in reading and reviewing drafts, and contribution of job descriptions.

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INTRODUCTION

This publication is the second of two reports which have been developed to suggest alternate jobs for unemployed aerospace engineers and scientists. It consists of brief summaries of various jobs found in private industry along with general, basic qualifications for employment in them. The first report dealt with jobs in government agencies. It was more specific in describing both jobs and basic qualifications, since government jobs were found to be generally standardized with employment qualifications more rigidly defined. More difficulty was experienced in grouping and establishing equivalent job descriptions and titles to cover jobs found in private industry because of the lack of standardization in both written job specifications and titling.

Wording from Dictionary of Occupational Titles definitions has been used in this report along with Dictionary of Occupational Titles titles in instances where it was found useful, usually for jobs found in more than one type of industrial establishment. Other descriptions and titles included have been drawn from company records or prepared by the analyst based on information provided. In the latter case the information was checked for accuracy with representatives at one or more industrial establishments where the jobs existed. The resulting descriptions are not meant to be comprehensive lists of tasks found on specific jobs, but rather brief, composite statements which present the essential duties and responsibilities of the jobs. It is hoped that the statements will also suggest additional jobs which may be checked in other industrial establishments.

The Unemployed Aerospace Worker

A sample consisting of more than 200 applications to a training program for unemployed aerospace professionals, and 28 applications from the Los Angeles Department of Human Resources Development files was used at the beginning of the first part of the study to survey applicant characteristics. In the sample, approximately 68 percent of the group were between the ages of 45 and 62, with 55 percent between 45 and 55. Approximately 80 percent of the group had bachelor's degrees in engineering and science and about 20 percent possessed graduate degrees. Most of the degrees (73 percent) were in some engineering specialty with 29 percent in mechanical engineering, 21 percent in electrical engineering, 8 percent in aeronautical engineering and smaller percentages in structural, chemical, general, civil, metallurgical, marine, and industrial engineering. Chemistry degrees totalled 8 percent with some Bachelor of Arts as well as Bachelor of Science degrees. Physics majors constituted approximately 10 percent of the group with mathematics around 2 percent.

Discussion with personnel managers and others concerned with aerospace employment through both portions of the study, confirmed that these figures do not vary widely from those developed from other sources.

Source of Job Information Categories

The information contained in this report is directed primarily to the worker with the kind of education and experience found to be typical of the aerospace group. A number of titles were selected which describe the degree major or field of job specialization related to aerospace work. Business Administration was also included because many resumes indicated a number of people had considerable graduate course work in business

administration, and because it served as an alternate qualification route to some jobs.

The Indicator Word "Source" and Material Included

The word "Source" opposite the job title on pages 1 through 70 indicates the kind of industry or business establishment in which the job was found. In general, if it was believed that a job was peculiar to a given plant, or if few such jobs exist in the labor market, the job was not included. An attempt was made to present jobs which exist in a number of establishments. It is important to point out that the sources listed indicate only where the jobs were found by the analyst, and are neither exhaustive nor limiting. In the case of such jobs as programmer, systems analyst, and engineer, similar jobs are known to exist in many other industries. The sources listed are meant to be examples. The user of this information will want to build upon these examples and consider all potential sources of jobs.

Alternate Titles

Titles shown below the initial title are other names by which the job was found or known in the source industries listed.

Scope of Job Information

Because of the time limitations on this study, no more than two or three employer organizations in any one industry were contacted. Some employment qualifications appear to be quite restrictive. These reflect only the requirements of the employer organization contacted. It is quite possible that similar jobs with less rigid qualifications are available in other organizations.

In selecting employer organizations and industries for inclusion in this study no aerospace or closely related firms were contacted in the belief that presenting the obvious would serve no useful cause. Teaching jobs have also been excluded. It is believed that many former aerospace personnel could qualify for teaching occupations, but certification requirements are complex and vary with educational levels.

CONTENTS

Job Titles here are grouped under the headings of various major fields of work or study common to engineers and scientists who have been employed in the aerospace industry. The user should review the headings listed, identify those most closely related to the background of an individual, then turn to the summaries of the job titles listed under the headings for review. Job titles are found under more than one heading if a number of fields of work or study serve as minimum or basic qualification for entry into that occupation.

Degree Major or Field of Job Specialization	Related Job Title	Page
Aeronautical or Aerospace Engineering	Associate Engineer	3
	Engineer, Microwave, Carrier, and Mobile Radio	23
	Engineer, Special Studies	25
	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Research Technician	54
	Sales Assistant	57
	Sales Engineer	58
Business Administration	Accountant	1
	Auditor	4
	Budget Analyst	5
	Cargo Agent	7

Degree Major or Field of Job Specialization	Related Job Title	Page
Business Administration (Contd.)	Claims Examiner	12
	Commercial Methods Representative	13
	Employment Interviewer	20
	Engineer	21
	Engineering Analyst	26
	Forms Specialist	30
	General Valuation and Costs Engineer	31
	Industrial Engineer	34
	Inventory Analyst	38
	Manager, Supplies and Services	41
	Programmer, Business	52
	Right of Way Agent	55
	Sales Assistant	57
	Sales Engineer	58
	Salesman, Business Services	59
	Systems Analyst, Business, Electronic Data Processing	63
	Systems Engineer, Retail Food Distribution	65
	Title Examiner	67
Ceramic Engineering	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Research Technician	54
	Sales Assistant	57
	Sales Engineer	58

Degree Major or Field of Job Specialization	Related Job Title	Page
Chemical Engineering	Chemical Engineer	8
	Cost Engineer	15
	Development Engineer	18
	Instrument Engineer	37
	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Process Engineer	50
	Research Technician	54
	Sales Assistant	57
	Sales Engineer	58
	Scheduling Engineer	60
	Systems Analyst, Computer Science	64
Chemistry	Chemist, Food	9
	Chemist, Paint and Plastic Weld Materials	10
	Manufacturing Engineer	42
	Nuclear Engineer	47
	Research Technician	54
	Sales Engineer	58
Civil Engineering	Civil Engineer	11
	Construction Engineer	14
	Cost Engineer	15
	Engineer, Soils	24
	Fire Defense Grading Engineer	29

Degree Major or Field of Job Specialization	Related Job Title	Page
Civil Engineering (Contd.)	Inventory Analyst	38
	Manager, Quality Assurance	40
	Research Technician	54
	Structural Engineer	62
	Systems Analyst, Computer Science	64
Electrical Engineering	Associate Engineer	3
	Cost Engineer	15
	Customer Service Engineer	16
	Data Transmission Engineer	17
	Electrical Engineer	19
	Engineer, Equipment (Line Engineering)	22
	Engineer, Microwave, Carrier, and Mobile Radio	23
	Engineer, Special Studies	25
	Equipment Maintenance Engineer	27
	Fire Defense Grading Engineer	29
	General Valuation and Costs Engineer	31
	Instrument Engineer	37
	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Outside Plant Engineer	48
	Research Technician	54
	Safety Inspector	56
	Sales Assistant	57

Degree Major or Field of Job Specialization	Related Job Title	Page
Electrical Engineering (Contd.)	Systems Analyst, Computer Science	64
	Transmission Engineer	68
	Wire Transmission Engineer	70
Electronic Data Processing	Accountant	1
	Actuary	2
	Auditor	4
	Data Transmission Engineer	17
	Engineer	21
	Engineering Analyst	26
	Information Scientist	36
	Programmer, Business	52
	Systems Analyst, Business, Electronic Data Processing	63
	Systems Engineer, Retail Food Distribution	65
Electronic Engineering	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Research Technician	54
Engineering Science	Inventory Analyst	38
	Research Technician	54
Geology	Geologist	32

Degree Major or Field of Job Specialization	Related Job Title	Page
Industrial Engineering	Business Methods Analyst	6
	Facilities Planner	28
	Human Factors Engineer	33
	Industrial Engineer	34
	Industrial Engineer, Maintenance	35
	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Production Planner	51
	Systems Engineer, Retail Food Distribution	65
	Time-Study Engineer	66
Mathematics	Actuary	2
	Engineer	21
	Information Scientist	36
	Systems Analyst, Computer Science	64
	Title Examiner	67
Mechanical Engineering	Associate Engineering	3
	Cost Engineer	15
	Customer Service Engineer	16
	Engineer, Equipment (Line Engineering)	22
	Engineer, Special Studies	25
	Equipment Maintenance Engineer	27
	Fire Defense Grading Engineer	29
	General Valuation and Costs Engineer	31
	Human Factors Engineer	33

Degree Major or Field of Job Specialization	Related Job Title	Page
Mechanical Engineering (Contd.)	Inventory Analyst	38
	Maintenance Engineer	39
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Mechanical Engineer	43
	Outside Plant Engineer	48
	Piping Engineer	49
	Quality Control Engineer	53
	Safety Inspector	56
	Sales Assistant	57
	Sales Engineer	58
	Scheduling Engineer	60
	Systems Analyst, Computer Science	64
	Vessel Engineer	69
	Wire Transmission Engineer	70
Metallurgy	Metallurgist, Physical	45
	Research Technician	54
Meteorology	Meteorologist	46
	Research Technician	54
Nuclear Engineering	Inventory Analyst	38
	Manager, Quality Assurance	40
	Manufacturing Engineer	42
	Nuclear Engineer	47
	Research Technician	54

Degree Major or Field of Job Specialization	Related Job Title	Page
Physics	Manufacturing Engineer	42
	Nuclear Engineer	47
	Research Technician	54
Statistics	Actuary	2
	Statistician, Applied	61
Systems Engineering	Inventory Analyst	38
	Systems Analyst, Business Electronic Data Processing	63
	Systems Engineer, Retail Food Distribution	65

ACCOUNTANT

Source:
Coatings (Paint) Manufacturing
Retail Supermarkets
Health Services
Public Utilities
Basic Metals Manufacturing
Retail Department Stores

Applies principles of accounting to install and maintain operation of general accounting system: Designs new system or modifies existing system to provide records of assets, liabilities, and financial transactions of establishment. Maintains accounts and records or supervises subordinates in such bookkeeping activities as recording disbursements, expenses, or tax payment, or in maintenance of accounting controls over inventories or purchases. Audits contracts, orders, and vouchers, and prepares reports which substantiate individual transactions before their settlement. Prepares and files tax returns and other regular and special reports to government agencies. May represent establishment before such agencies upon certification by agency involved.

Qualification: Bachelor's degree in business administration with some course work or experience in accounting and electronic data processing. Some employers prefer experience in accounting. Some employers require a degree with a major in accounting or the equivalent.

ACTUARY

Source:
Actuarial Consulting Firms
Insurance Companies
Pension Funds - Govt. or Union

Applies knowledge of mathematics, probability, statistics, principles of finance and business to problems in life, health, social and casualty insurance, annuities, and pensions: Determines mortality, accident, sickness, disability, and retirement rates. Constructs probability tables regarding fire, natural disasters, and unemployment, based on analysis of statistical data and other pertinent information. Designs insurance and pension plans and calculates premiums. Ascertains premium rates required and cash reserves and liabilities necessary to ensure payment of future benefits. Determines equitable basis for distributing surplus earnings under participating insurance and annuity contracts in mutual companies. Evaluates the company's financial position and suggests courses of action to management. May analyze economic trends and their bearing on the insurance business, prepare annual statements, and conduct mathematical research.

Qualification: Many employers require a degree in mathematics. Others prefer mathematics combined with electronic data processing or statistics.

ASSOCIATE ENGINEER

Source:
Air Transportation

Prepares engineering drawings required to support orders for engineering changes. Performs engineering studies of aircraft maintenance problems. May recommend methods for improving engineering and mechanical operations of aircraft to eliminate the cause of delays.

Provides technical assistance to maintenance foreman as required. Performs engineering studies of aircraft or equipment modifications proposed by manufacturers such as those pertaining to electrical, mechanical, and hydraulic systems and sheet metal fabrication. May develop or apply established tests to determine or verify the operating characteristics of the aircraft or its component parts.

Prepares cost/benefit studies of modifications and maintenance or operating procedure changes. Prepares necessary estimates, technical drawings, and specifications as required.

Qualifications: Bachelor's degree in aeronautical, mechanical, electrical, or maintenance engineering is usually preferred. Some employers accept a combination of education and experience equivalent to college level study. A thorough background in engineering drafting is required.

AUDITOR

Source:
Coatings (Paint) Manufacturing
Retail Supermarket Chains
Basic Metals Manufacturing
Health Services
Public Utilities
Air Transportation
Insurance Companies
Retail Department Stores

Examines and analyzes accounting records of establishment and prepares reports concerning its financial status and operating procedures: Reviews data regarding material assets, net worth, liabilities, capital stock, surplus, income, and expenditures. Inspects items in books of original entry to determine if proper procedure in recording transactions was followed. Counts cash on hand, inspects notes receivable and payable, negotiable securities, and cancelled checks. Verifies journal and ledger entries of cash and check payments, purchases, expenses and trial balances by examining and authenticating inventory items. Reports to management concerning scope of audit, financial conditions found, and source and application of funds.

At entry level, the inexperienced auditor works under supervision.

Qualification: Bachelor's degree (some employers specify no major) and several years experience in business or work in a specific industrial field. Some employers, particularly those in retail sales, prefer a number of units in accounting and/or electronic data processing.

BUDGET ANALYST

Source:
Coatings (Paint) Manufacturing
Retail Department Stores
Air Transportation
Retail Supermarkets

Assists with or may be responsible for preparing and maintaining schedules and analyses of all operating expenditures for cost center and budget control purposes.

Works with other staff members, cost center supervisors, and accounting personnel. Accumulates data and prepares and maintains schedules and work sheets of actual and forecosted operating expenditures for services or supplies by account, cost center, and/or other as applicable.

Analyzes budget variance each month, determines reason, and prepares reports for supervisors or others that describe in detail the reason for such variance.

Reviews for accuracy codes and records, invoices and expense reports, and requisitions for direct purchases of supplies and services from outside vendors.

Qualification: Most employers specify a bachelor's degree in any discipline with some units or experience in accounting; others require a degree in business administration or accounting.

BUSINESS METHODS ANALYST

Source:
Retail Department Stores
Title Insurance

Analyzes business methods, procedures, and problems in clerical, budgetary, organizational, and similar areas of concern; formulates and recommends revisions in, or the introduction of, new methods, forms, equipment, or procedures to improve operations or lower costs.

Assists in the implementation of authorized conversion to new methods or procedures. Advises and participates in the design and procurement of new forms, and in procurement and installation of new office equipment.

Maintains current knowledge of modern business methods and of any special disciplines required by specific work projects. May review methods, forms, and procedures on own initiative or recommend specific study projects.

Qualification: Bachelor's degree in industrial engineering or related, and experience in industrial engineering or planning in a similar business environment.

CARGO AGENT

Source:
Air Transportation

Receives, processes, routes, and arranges for delivery of air-cargo: Acknowledges telephone inquiries from shippers and prospective shippers, answers questions and furnishes information relating to rates, routes, schedules, and services. Recommends specific services to meet shipper's requirements. Arranges for pick-up and cargo routing. Plans loads for designated aircraft on specific flights. Assembles cargo according to departure time and destination. Notifies consignees on arrival of shipments and arranges for delivery.

Qualification: Bachelor's degree or equivalent experience.

CHEMICAL ENGINEER

Source:
Coatings (Paint) Manufacturing

Designs chemical-plant equipment and devises processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, and paper and pulp, applying principles and technology of chemistry, physics, mechanical and electrical engineering, and related areas: Conducts research to develop new and improved chemical-manufacturing processes. Designs layout of chemical plants to facilitate processing activities. Designs machinery for improving processing methods or for manufacturing new products. Oversees workers' activities in constructing plant and new equipment. Develops and implements procedures for processing materials which effect cost reduction and optimum production. Determines most effective arrangement of operations, such as mixing, crushing, heat transfer, distillation, oxidation, hydrogenation, and polymerization. Oversees workers controlling equipment such as condensers, absorption and evaporation towers, columns, and stills.

Qualification: Bachelor's degree in chemical engineering.
Some employers require experience in plants manufacturing particular kinds of coatings.

CHEMIST, FOOD

Source:
Retail Supermarket Chain

Conducts experiments in chemistry of foods: Experiments with natural and synthetic materials or byproducts to develop new foods, food preservatives, antiadulteration agents, and similar products. Studies effects of various methods of preservation of nutritive content and palatability. Tests food samples such as starch and sugar products, cereals, canned and dehydrated foods, dairy products, vegetables, meats, flavorings, and other products to insure compliance with government food laws and to determine that products meet standards of quality and purity. May perform, or supervise personnel performing quality control tests in food processing.

Maintains records of foods tested and other experimental work and prepares reports from them.

Qualification: Bachelor's degree in chemistry and/or experience in food chemistry.

CHEMIST, PAINT AND PLASTIC
WELD MATERIALS

Source:
Coatings (Paint) Manufacturing
Plastic Weld Manufacturing

Conducts experiments on various substances to develop and improve materials and products, and to discover scientific facts: Combines organic compounds to make new substances or to duplicate substances in nature. Carries out and participates in experiments designed to develop and improve by chemical means, the color, texture, strength, and lasting qualities of paint and other organic compounds and byproducts.

Develops new uses for chemical byproducts and devises new procedures for preparing organic compounds. Conducts tests for quality control purposes on each production batch to assure that it meets quality standards.

Qualification: Bachelor's degree in chemistry and several years experience in working in the specified industrial area. Larger companies may hire without experience in the field, and are likely to employ chemical engineers as well as chemists.

CIVIL ENGINEER

Source:
Consulting-Engineering Firms

Performs a variety of engineering work concerned with preliminary planning, designing, and overseeing construction and maintenance of structures and facilities such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, powerplants, water and sewage systems, and waste disposal units.

Qualification: Bachelor's degree in civil engineering or equivalent experience.

CLAIMS EXAMINER

Source:
Insurance Companies

Analyzes insurance claims to determine the extent of the company's liability and settles claims with claimants in accordance with policy provisions: Compares data on claim application, death certificate, or physician's statement with policy file and other company records to ascertain completeness and validity of claim. Corresponds with agents and claimants or interviews them in person to correct errors or omissions on claim forms, and to investigate questionable facts. Pays claimant amount due.

Qualification: Some companies will accept two years of college work in any discipline and one year's business experience.

COMMERCIAL METHODS REPRESENTATIVE
(Commercial Office Manager)

Source:
Public Utility

Plans and develops methods and procedures for reducing costs and increasing production in public utility service offices and improving customer services.

Qualification: Bachelor's degree in business administration.

CONSTRUCTION ENGINEER

Source:
Industrial or Plant Construction
Public Utility

Performs civil engineering duties at location of building site, assisting and cooperating with Construction Superintendent to insure that construction meets engineering specifications: Supervises and coordinates survey workers in performing general survey work and verifies survey results, using transit. Cooperates with Construction Superintendent to insure that such factors as excavating of material, grading, shoring, and pouring of foundations meet specified engineering standards. Verifies that erection of structure, installation of piping, and installation of equipment is in accordance with engineering drawings. Recommends engineering changes when drawings are not compatible with construction. Keeps construction records of progress of work and conformity to engineering standards during construction. Coordinates engineering change documents with construction site activities.

Qualification: Bachelor's degree in civil engineering.

COST ENGINEER

Source:
Industrial or
Plant Construction

Accumulates and assembles estimated engineering, procurement, and construction costs. Prepares complete analysis and comparison of all project costs, and develops and makes use of estimating and cost control techniques.

Qualification: Bachelor's degree in chemical engineering, electrical engineering, mechanical or civil engineering.

CUSTOMER SERVICE ENGINEER
(Staff Engineer - Customer Equipment)

Source:
Public Utility

Develops and recommends customer equipment, apparatus standards, and technical usage practices. Evaluates and recommends solutions to electrical and mechanical problems in customer equipment, and prepares cost estimates for rate-making.

Qualification: Bachelor's degree in mechanical or electrical engineering, or experience in the field.

DATA TRANSMISSION ENGINEER
(Staff Engineer, Data Transmission)

Source:
Public Utility

Analyzes, develops, and recommends data transmission standards and practices. Evaluates new systems and equipment, and provides staff assistance in data transmission engineering objectives and problems.

Qualification: Degree in electrical engineering or electronic data processing with work experience in an electrical engineering field. Systems analysis experience or training is preferred by some employers.

DEVELOPMENT ENGINEER

Source:
Coatings (Paint) Manufacturing
Industrial or Plant Construction

Develops designs for new or unusual manufacturing processes or improves standard processes. Determines nature and applicability of new information and skills needed in various plant engineering specialties. Gathers information and performs subsequent engineering work leading to first plant designs in new fields.

Qualification: Bachelor's degree in chemical engineering, and experience in the specific industrial field.

ELECTRICAL ENGINEER

Source:
Industrial or
Plant Construction

Performs engineering calculations and prepares equipment specifications for all features of electrical power generation and distribution, including related controls, alarms, lighting, and communication systems.

Qualification: Bachelor's degree in electrical engineering, or the equivalent in experience.

EMPLOYMENT INTERVIEWER
(Personnel Interviewer,
Coordinator Manpower Resources)

Source:
Public Utility
Retail Department Store

Interviews job applicants to determine their suitability for employment with company: Records information and impressions gained from applicants, and evaluates information to determine suitability for employment. Administers tests and interprets results. Prepares ratings on applicants and makes recommendations for future consideration of those not immediately employed. Supplies information to applicants such as company and union policies, duties, responsibilities, working conditions, hours and pay, and promotional opportunities. Prepares and maintains records of those interviewed, accepted or rejected, and those declining employment. Discusses hiring activity with supervisors to determine adequacy of selection techniques or recruitment program. Observes jobs to obtain firsthand information of job requirements and needs.

May conduct orientation sessions for new employees. May review initial employment experience after three months to determine employee satisfaction with job.

Qualification: Bachelor's degree in any discipline, and several years business experience.

ENGINEER

Source:
Public Utility

Develops mathematical study models and techniques. Assists others in the evaluation, testing, and implementation programming of new standards or products.

Develops changes to existing standards or products and prepares specific studies related to planning.

Qualification: Bachelor's degree in mathematics, or business administration, with emphasis in operations research and/or qualitative analysis. Some employers prefer experience in systems analysis and electronic data processing.

ENGINEER EQUIPMENT (LINE ENGINEERING)

Source:
Public Utility

Prepares engineering specifications and drawings for the installation of central office and station equipment, and related functions.

May direct the activities of craft and clerical personnel as required.

Qualification: Bachelor's degree in mechanical or electrical engineering, or equivalent experience in the field.

ENGINEER, MICROWAVE, CARRIER, AND MOBILE RADIO

Source:
Public Utility

Assists in designing applications of microwave, carrier, and radio equipment and systems, and providing technical assistance during installation. Assists in preparing transmission engineering recommendations for microwave, carrier, and mobile radio systems.

Provides technical assistance in the installation, operation, and maintenance of microwave, carrier, and radio systems.

Qualification: Bachelor's degree in electrical engineering, aeronautical engineering, and/or experience in working with this kind of equipment.

ENGINEER, SOILS

Source:
Engineering-Consulting

Oversees and participates in field and laboratory tests to determine soil properties: Sets up testing equipment and machinery, and oversees workers conducting soil tests. Inspects proposed construction sites to determine general type, classification, and characteristics of soils. Oversees drilling and sampling programs at construction project to meet requirements for analysis of soil and foundation conditions. Reviews and prepares reports of test results.

Qualification: Bachelor's degree in civil engineering, and experience with soils.

ENGINEER, SPECIAL STUDIES

Source:
Public Utility

Develops, analyzes, and prepares information and recommendations involving a wide range of special engineering studies concerning investment, revenue, expense and other economic factors.

Qualification: Bachelor's degree in mechanical, electrical, or aeronautical engineering, or equivalent experience.

ENGINEERING ANALYST

Source:
Consulting-Engineering

Conducts logical analyses of scientific, engineering, and other technical problems, and formulates mathematical model of problem for solution by digital computer: Analyzes assigned problem, such as optimal design configuration of ballistic missile or computer system for industrial process control. Consults with engineering or scientific personnel to refine definition of project and prepare mathematical simulation of physical system under study. Searches library for applicable mathematical formulations and data pertinent to problem. Prepares mathematical model of problem area, such as set of partial differential equations to relate constants, and variables, and restrictions.

Qualification: Bachelor's degree in business, or electronic data processing, and experience in systems work.

EQUIPMENT MAINTENANCE ENGINEER

Source:
Public Utility

Develops and recommends equipment maintenance standards, practices, and procedures. Investigates and recommends solutions to problems contained in unsatisfactory equipment reports and provides staff assistance on equipment maintenance functions.

Qualification: Bachelor's degree in mechanical or electrical engineering, or equivalent experience.

FACILITIES PLANNER
(Properties Engineer; Building,
Planning, and Equipment Engineer)

Source:
Retail Department Stores
Public Utilities
Retail Supermarket
Health Services

Uses knowledge of engineering and construction, along with that of the industry, to plan new facilities which will provide optimum conditions for the functions for which they are intended. Gathers information on, and studies the structural demands of, a building and the human factors involved in its use. Coordinates equipment needs of the operation with building design and available facilities. Conducts studies of the use of existing facilities in order to eliminate inefficiencies in new stores, plants, or health services buildings. Works with others in the organization, such as industrial engineers and department heads, to assure coordination of efforts to produce most favorable results. Maintains familiarity with building codes and sanitation requirements and works with local planning officials to assure conformance of facilities. May supervise the work of draftsmen, clerical staff, and others.

Qualification: Degree in industrial engineering or related discipline, and experience in plant engineering or facilities planning. Some employers require experience in the specific industrial field.

FIRE DEFENSE GRADING ENGINEER

Source:
Insurance

Works with local government fire and water officials to gather information on city and rural protection facilities for analysis and grading. Tests water systems to determine adequacy of pumps and other equipment, and of water pressure, and flow, under various conditions. Evaluates fire fighting equipment and its ability to function adequately, in order to assess the effectiveness of the total fire defense of the area. Prepares material and delivers talks concerning fire protection standards to service clubs and other civic groups. May provide general guidance for fire protection upgrading. May supervise other workers engaged in fire grading inspection. May specialize in some particular phase of the work.

Qualification: Bachelor's degree in mechanical, civil, or electrical engineering with some study in fluid and hydraulics, or the equivalent in experience.

FORMS SPECIALIST

Source:
Insurance

Develops and implements new and improved forms management procedures. Develops and maintains company forms catalog. Performs research and development functions on forms.

Qualification: Bachelor's degree in business administration. Some employers will accept a degree in any discipline, but may require several years experience working with forms. Some employers restrict to workers who have experience with forms within their own companies.

GENERAL VALUATION AND COSTS ENGINEER
(Costs Engineer)

Source:
Public Utility

Directs, coordinates, and administers personnel, and activities concerned with conducting separations studies, valuation studies, special engineering studies, and cost analyses.

Qualification: Bachelor's degree in mechanical engineering or electrical engineering. Some employers prefer a degree in business administration and/or experience in the work.

GEOLOGIST

Source:
Consulting-Engineering

Applies geological knowledge to engineering problems encountered in construction projects, such as dams, tunnels, and large buildings.

Qualification: Bachelor's degree in geology is adequate for some jobs, others require a master's.

HUMAN FACTORS ENGINEER

Source:
Health Services

Applies engineering skills in planning work environment which provides optimum working conditions for humans. Establishes human factors design criteria for equipment and facilities. Assists engineers in solving problems in design of hardware and facilities that require knowledge of man's capabilities and limitations. Monitors design for adherence to human factors engineering criteria for operation, maintenance, and personnel safety. Tests and evaluates human factors aspects of equipment.

Qualification: Bachelor's degree in industrial or mechanical engineering.

INDUSTRIAL ENGINEER

Source:
Basic Metals Manufacturing
Retail Drug Chain
Retail Supermarket Chain
Retail Department Store

Performs a variety of engineering tasks in planning and overseeing utilization of facilities and personnel. Conducts studies on work scheduling, relating manpower to productivity, and develops crewing guides for low and peak-hour staffing. Coordinates activities with those of facilities planners to insure optimum use of facilities in accordance with staffing schedules and workflow. Develops plans to minimize accidents and to maintain safe and efficient utilization of facilities. Plans and oversees work study and training programs to promote efficient manpower utilization.

Qualification: Bachelor's degree in industrial engineering, or business administration or related discipline, with experience in industrial engineering. Most employers prefer some educational or experience background in marketing.

INDUSTRIAL ENGINEER, MAINTENANCE

Source:
Air Transportation

Provides maintenance management with the design and installation of an integrated system of men, material, and equipment, which will insure the highest quality work production and performance consistent with rigid cost control. Reviews and evaluates results of such system, recommending improvements as necessary. Establishes standards of work production and performance for maintenance division. Determines degree of standards achievement and recommends any action necessary to further improve performance, using sampling studies and performance analysis. Periodically recommends workload to be scheduled for the various maintenance shops, based on investigations and determination of manpower and equipment capabilities. Conducts studies on the flow of paperwork to determine the need for more control and to eliminate meaningless or outdated reports and forms; recommends to supervisor new or revised methods and procedures based on the results of such studies.

Qualification: Bachelor's degree in industrial engineering or the equivalent in experience.

INFORMATION SCIENTIST

Source:
Large Libraries

Devises methods for resolving problems concerned with the origin, collection, organization, interpretation, storage, retrieval utilization, and dissemination of business, scientific, and technical information, according to familiarity with mathematical principles, data processing techniques, and subject matter involved.

Qualification: Degree in mathematics, or electronic data processing, or engineering with emphasis on mathematics and electronic data processing.

Note: A very limited number of jobs in this field may be available in large libraries. Employers seem to prefer employment candidates with strong experience in mathematics and systems work, and are likely to be more interested in people who will work toward degrees in librarianship.

INSTRUMENT ENGINEER

Source:
Industrial or Plant Construction

Develops basic instrument control systems, safety inter-locks, and relief systems for refineries and chemical plants. Follows an engineering project through all its stages, from application to plant start-up.

Qualification: Bachelor's degree in chemical engineering or electrical engineering, or the equivalent in experience.

INVENTORY ANALYST

Source:
Air Transportation
Retail Department Store

Gathers information and makes technical forecasts. Plans, provisions, and controls inventory investment. Prepares various cost analyses as required for management review. Prepares and maintains inventory records.

Qualification: Degree in business administration or engineering (any kind) and two years of related technical experience, or six years of technical experience.

MAINTENANCE ENGINEER

Source:
Retail Department Store
Retail Supermarket

Directs activities of workers engaged in setting up, installing, repairing, and maintaining process equipment and machinery and in fabricating metal parts and tools: Directs workers engaged in repairing and maintaining mechanical parts of equipment and machines, and dismantling, assembling, and installing industrial machinery including refrigeration plants. Assists in planning and budgeting for the unit. Maintains familiarity with building codes and sanitary regulations. Coordinates activities of assigned functional unit with those of other departments in the organization. May requisition and maintain a supply of spare parts.

Qualification: Experience in the occupation or a degree in mechanical engineering and considerable practical acquaintance in the industrial area, including work with industrial refrigeration systems.

MANAGER, QUALITY ASSURANCE

Source:
Air Transportation

Manages and directs reliability program for jet fleet in accordance with continuous maintenance performance audit rules.

Qualification: Airframe and Powerplant (A & P) license preferred. Engineering degree with some experience, or in lieu of this, ten years of aircraft and engine maintenance experience.

MANAGER, SUPPLIES AND SERVICES

Source:
Air Transportation

Responsible for receiving, storing, issuing, and safeguarding of property and equipment located in storeroom and toolroom. Establishes and maintains accountability records for ground property and radio items assigned to airport unit. Develops and implements new policies and procedures related to inventory and supply functions; administers purchasing activities for unit.

Qualification: Bachelor's degree in any discipline.

MANUFACTURING ENGINEER

Source:
Temperature Controls Manufacturing
Electrical Manufacturing

Acts in a liaison capacity between company and supplier. Applies knowledge of engineering to insure that the most feasible manufacturing techniques are employed. Facilitates and maintains delivery schedules and supervises cost reduction activities.

Provides estimated costs of design changes and components, substantiates such costs, and reconciles estimates with supplier's quotations. Investigates and reports on supplier manufacturing and production control system problems and deficiencies, and establishes action for resolution. Forecasts delivery dates of components and determines reasons for changes in forecast dates as they occur.

Makes recommendations to engineering for acceptance or rejection of variations or deviations in specifications on assigned phase of work. Reviews proposed manufacturing sequence to anticipate, locate, isolate, and eliminate manufacturing problems or "bottlenecks" and makes recommendations for resolution to supplier management.

Qualification: Bachelor's degree in engineering or science, and five years of manufacturing experience, or equivalent, with a thorough knowledge of non-destructive testing, statistical quality control, complex measuring instruments, technical report writing, etc.

MECHANICAL ENGINEER

Source:
Basic Metals Manufacturing

Performs a variety of engineering work in planning and design of tools, engines, machines, and other mechanically functioning equipment and oversees installation, operation, maintenance, and repair of such equipment including centralized heat, gas, water, and steam systems.

Qualification: Bachelor's degree in mechanical engineering, or experience in this kind of work in the industry.

MECHANICAL ENGINEER

Source:
Industrial or
Plant Construction

Develops and coordinates specification, selection, and installation engineering of mechanical equipment, optimizing equipment performance, reliability, and economics. Provides a technical consulting staff to assist all departments with customer contacts or supplier problems.

Qualification: Bachelor's degree in mechanical engineering, and in some instances, chemical engineering or the equivalent in experience.

METALLURGIST, PHYSICAL

Source:
Basic Metals Manufacturing

Investigates properties and treatment of metals to develop new alloys, new uses for metals and alloys, and methods of producing them commercially: Conducts microscopic, X-ray, X-ray diffraction, and spectroscopic studies of metals and alloys, such as steel, cast iron, and nonferrous alloys, to determine their physical characteristics, such as crystalline structure, dispersion of alloy particles through basic metal, and presence of impurities, fractures, and other defects in metal samples. Develops melting, hot-working, and heat-treating processes to obtain desired characteristics, such as ductibility, malleability, lightness, and strength. Tests alloys in tension, compression, impact, bending, or fatigue devices to study their engineering properties and to insure their compliance with prescribed standards. Consults with engineers and officials to develop methods of manufacturing alloys at minimum costs.

Qualification: Bachelor's degree in materials engineering or metallurgy, with some employers preferring a master's degree, and/or experience in the industry, frequently with the particular kind of material with which the manufacturer works.

METEOROLOGIST

Source:
Consulting Engineering

Participates in the analysis of technical data pertaining to air pollution control, including emissions measurements from both mobile and stationary sources, reports of meteorological conditions, air quality standards references, and research projects. Prepares technical reports, graphs, charts, and statistical models.

Collaborates with engineering, source test, and other technical personnel regarding investigative projects concerned with air quality measurements, source emissions, and determination of standards.

Plans field meteorological studies, using statistical design and air sampling technology. Determines methodology and instrumentation. Supervises and evaluates technical personnel. Calculates air pollutant dispersions and behavior of micro and macro air masses.

Qualification: Bachelor's degree is acceptable to some employers, others prefer graduate degrees in meteorology.

NUCLEAR ENGINEER

Source:
Consulting Engineering

Conducts research on nuclear engineering problems or applies principles and theory of nuclear science to problems concerned with release, control, and utilization of nuclear energy: Performs research, development, and design work in which the unique nature of energy presents the major challenge, or directs operating and maintenance activities in operational nuclear facilities. Examples of problems are thermonuclear analysis and utilization of radiation; analysis and design of reactor and nuclear energy systems; analysis of radiation effects and shielding design problems; processing of radioactive materials and radioactive waste disposal; and radiological safety control.

Qualification: Bachelor's degree in chemistry, nuclear engineering, or physics, and experience in working with nuclear radiation.

OUTSIDE PLANT ENGINEER

Source:
Public Utility

Analyses, evaluates, and recommends outside plant engineering construction methods and procedures. Monitors conformance to methods and procedures and provides assistance to engineering personnel in other specialties.

Qualification: Bachelor's degree in mechanical engineering, or electrical engineering, or equivalent experience.

PIPING ENGINEER

Source:
Industrial or
Plant Construction

Develops plant layout and piping design for petroleum refineries, chemical processing plants, power plants and other industrial facilities. Calculates stress analysis for the piping system and prepares specifications for piping materials and installation.

Qualification: Bachelor's degree in mechanical engineering, industrial technology, or the equivalent in experience.

PROCESS ENGINEER

Source:
Coating (Paint) Manufacturing
Industrial or
Plant Construction

Uses fundamental chemical engineering knowledge and participates in practical engineering aspects of process plant design. Initiates discussions defining project scope with clients. Formulates preliminary designs and prepares evaluation of alternatives. Selects basic process steps, develops heat and material balances, and specifies process equipment. Prepares plant flow sheets and participates in detailed engineering throughout the course of the project, culminating in plant startup and testing.

Qualification: Bachelor's degree in chemical engineering or the equivalent in experience.

PRODUCTION PLANNER

Source:
Air Transportation

Performs the technical functions of forecasting, planning, scheduling, and controlling aircraft, engine, and component maintenance, modification, and overhaul to provide optimum utilization of aircraft, engines, and components. Plans activities so as to maintain efficient and economical use of manpower, materials, and facilities.

Qualification: Degree in engineering (preferably industrial engineering) and two years related technical experience, or six years related technical experience. Good knowledge of maintenance procedures and Federal Aviation Administration regulations. Working knowledge of inventory and accounting procedures including electronic data processing.

PROGRAMMER, BUSINESS
(Programmer Analyst)

Source:
Temperature Control Manufacturing
Basic Metals Manufacturing
Retail Supermarket Chains
Health Services
Retail Drug Chains
Public Utilities
Retail Department Stores
Insurance
Banks
Title Insurance Companies

Develops logical programs, in coded language, to assist in the solution of business problems by computer application systems. Assists in maintenance and modification of on-going systems and in the adaptation of acquired packaged systems. Studies and analyzes company business functions and determines adaptability to automatic data processing equipment. Assists in developing procedures, programs, diagrams, tests, and flow charts to establish, implement, revise, and maintain processing systems.

Qualification: Bachelor's degree in business administration or electronic data processing, or extensive experience in working with business programming. Some employers make no degree requirement and may train and promote into programming jobs. An increasing number of employers combine this job with that of Systems Analyst.

QUALITY-CONTROL ENGINEER

Source:
Temperament Control Manufacturing
Toy Manufacturing

Performs and oversees activities concerned with development, application, and maintenance of quality standards for processing materials into partially finished or finished material or product: Develops and initiates methods and procedures for inspection, testing, and evaluation. Devises sampling procedures, designs forms for recording, evaluating, and reporting quality and reliability data, and writes instructions on use of forms. Establishes program to evaluate precision and accuracy of production and processing equipment and testing, measurement, and analytical facilities. Develops and implements methods and procedures for disposition of discrepant material, and devises methods to assess cost and responsibility. Oversees workers engaged in measuring and testing product and tabulating quality and reliability data. Compiles and writes training material and conducts training sessions on quality control activities. May specialize in any or following areas of quality-control engineering such as design, incoming material, process control, product evaluation, inventory control, product reliability, research and development, and administrative application.

Qualification: Bachelor's degree in mechanical engineering and/or varying combinations of experience, usually including work in quality control.

RESEARCH TECHNICIAN

Source:
Steel Manufacturing

Performs technical duties concerned with sampling and testing materials and the compiling of data for experimental projects pertaining to chemistry, agriculture, meteorology, and general engineering in the study and control of air pollutants.

Qualification: Two years of college engineering and/or science.

RIGHT-OF-WAY AGENT

Source:
Public Utility

Obtains right-of-way agreements, easements, licenses, and permits necessary to provide for and protect the right to place permanent outside communications equipment on private property.

Qualification: Bachelor's degree in business administration, or business experience and knowledge of work.

SAFETY INSPECTOR
(Safety Engineer)

Source:
Insurance

Studies operating procedures of insured companies. Compiles and analyzes accident records, investigates accidents, and suggests corrective action for control and prevention of losses. May work with such loss factors as occupational disease, noise, driving safety, air pollution and nuclear radiation. Surveys prospective risks to obtain necessary information for underwriters.

Qualification: Bachelor's degree in mechanical or electrical engineering, or equivalent experience.

SALES ASSISTANT

Source:
Public Utility

Provides assistance in all phases of displaying and demonstrating customer business equipment such as conducting tours of company sales equipment displays and demonstrating equipment.

Confers with company personnel to obtain and/or provide information or assistance as related to marketing activities.

Qualification: Bachelor's degree in business administration or engineering, or the equivalent in experience.

SALES ENGINEER

Source:
Coating (Paint) Manufacturing
Basic Metals Manufacturing
Public Utility

Sells equipment, supplies, or services which require professional engineering knowledge sufficient to make judgments involving complex engineering and economic principles and calculations to persuade potential buyers or lessees of practical value of production or service: Calls at industrial, commercial, and other establishments, and on engineers, architects, and other professional and technical workers, attempting to convince prospective customers of desirability of purchasing from firm represented. Prepares financial and operational estimates from blueprints, plans, or other records submitted by potential customers. Draws up and proposes changes in equipment or use of materials which would result in cost reduction or more efficient operation.

Qualification: Bachelor's degree in business administration, marketing, or engineering, or equivalent experience in an appropriate industry.

SALESMAN, BUSINESS SERVICES
(Business Development Representative)

Source:
Title Insurance

Provides liaison service and communication between customers, business community representatives, and company personnel to promote new and increased business within assigned accountability.

Develops new customers for company services. Identifies and establishes prospective customers through leads available from a variety of internal and external sources. Collects preliminary information on prospect's organization, type and scope of business, personnel employed, and other details. Arranges meetings with prospects to discuss company services. Responds to questions by providing additional information.

Maintains contacts in local business activity. Attends meetings and serves on the committees of local trade associations, and civic and professional groups.

Qualification: No specific academic degree. Knowledge of business and some knowledge of title insurance or real estate transactions. Must have outgoing personality and good sales approach.

SCHEDULING ENGINEER

Source:
Industrial or
Plant Construction

Analyzes data and prepares schedules for engineering and construction projects. Assesses manpower needs and requirements for equipment and machinery deliveries to a jobsite. Utilizes computers to relate and organize numerous project variables in a comprehensive schedule to identify activities and factors critical to completion date.

Qualification: Bachelor's degree in chemical engineering, industrial technology, or mechanical engineering.

STATISTICIAN, APPLIED

Source:
Public Utilities
Banks
Retail Department Stores
Health Services

Plans surveys and collects, organizes, interprets, summarizes, and analyzes numerical data on sampling or complete enumeration bases, applying statistical theory and methods to provide usable information in scientific and other fields: Develops questionaire to elicit information required by survey design. Conducts surveys utilizing sampling techniques, or monitors experiments to obtain types of information desired. Evaluates reliability of sources of data, adjusts and weights raw data as necessary, and organizes and summarizes data into tabular forms amenable to analysis of variance and principles of statistical inference. Presents data in form of tables and graphs. Writes reports describing sources of data and limitations on data reliability or usability by management, scientists, and others.

Qualification: Bachelor's degree in economics or statistics, or the equivalent in experience.

STRUCTURAL ENGINEER

Source:
Industrial or
Plant Construction

Performs the engineering analysis and design for heavy industrial structures, foundations, and buildings. Performs other tasks related to site development, grading, road construction, and drainage. Prepares basic design criteria and specifications.

Qualification: Bachelor's degree in civil engineering or the equivalent in experience.

SYSTEMS ANALYST, BUSINESS,
ELECTRONIC-DATA PROCESSING
(Programmer Analyst, Methods Accountant)

Source:
Public Utility
Temperature Controls
Manufacturing
Engineering Consulting
Retail Department Stores
Title Insurance
Retail Supermarket Chains

Analyzes and prepares cost and feasibility estimates for the solution of business problems through computer applications. Develops and oversees the implementation of authorized conversion to new or revised computer application systems. Oversees, and participates in, the conversion of files and records, and in the operational testing of the new system. Advises department personnel in the design and procurement of new forms, writing of new procedures, and establishment of schedules. Conducts briefing and training sessions for personnel involved.

Qualification: Experience in systems analysis, preferably in the specific industry. Some employers require a bachelor's degree in business administration, or systems, and electronic data processing. An increasing number of employers combine this job with that of Programmer, Business.

SYSTEMS ANALYST, COMPUTER SCIENCE

Source:
Basic Metals Manufacturing
Industrial or
Plant Construction

Works with specialists from other disciplines to conduct detailed analyses on the flow of information through the company from the inception of a project to its final completion report. Plans and controls flow of information. Studies new techniques and keeps abreast of new developments in the computing field.

Qualification: Bachelor's degree in mathematics, chemical engineering, civil engineering, electrical or mechanical engineering.

SYSTEMS ENGINEER,
RETAIL FOOD DISTRIBUTION

Source:
Retail Supermarket Chain

Applies systems engineering knowledge and skills to plan and execute rapid distribution of retail foods and other merchandise to individual supermarkets in a chain-store organization. Conducts studies in areas of receiving, warehousing, packaging, distribution, and loading to reduce handling time and costs. Continues to monitor and analyze methods used to move perishable and non-perishable foods and other items from warehouse to individual markets. Establishes operational procedures for activities such as verification of incoming and outgoing shipments and maintenance of inventory. Plans transport of goods to make maximum use of existing fleet of trucks and negotiates contracts with other organizations to lease or rent transportation equipment as necessary. Confers with department heads and other staff to insure coordination of distribution activities with activities such as production, sales, records control, and purchasing. May screen and hire supervisory warehouse personnel and issue work assignments. May purchase equipment and direct reclamation of damaged or used materials.

Qualification: Bachelor's degree in industrial engineering or business administration and/or equivalent experience in systems engineering and electronic data processing, preferably relating to distribution and inventory problems.

TIME-STUDY ENGINEER
(Industrial Engineer)

Source:
Temperature Control Manufacturing

Develops work measurement procedures and directs time-and-motion studies to promote efficient and economical utilization of personnel and facilities: Directs or conducts observation and analysis of personnel and work procedures to determine time and motion requirements of job duties. Analyzes work study data and equipment specifications to establish time and production standards. Applies mathematical analysis to determine validity and reliability of sampling and work study statistics. Applies principles of industrial engineering and applied psychology to evaluate work methods proposals and to develop recommendations to management affecting work methods, wage rates, and budget decisions.

Qualification: Bachelor's degree in industrial engineering and experience in the occupation.

TITLE EXAMINER
(Title Engineer)

Source:
Title Insurance

Checks, amends, and writes in appropriate legal terms insurable legal descriptions for company policies or customer. Describes land parcels, lot splits, and easements from information obtained in title search and by locating property in map books, government and private surveys, assessor's maps, aerial photographs, and highway maps. Calculates dimensions, closure, acreage, traverse, curves, and central angles of various properties with irregular boundaries such as shorelines and right-of-ways, applying mathematics including trigonometry, and using adding machines, calculator, or engineering computer to determine the extent of encroachments and gaps or the effect of easements.

Performs various title engineer duties such as checking, amending, and writing insurable legal descriptions for complex, extended coverage, and high liability or subdivision maps.

Qualification: No specific academic requirement. Knowledge of mathematics, drafting practices, and real estate and escrow procedures.

TRANSMISSION ENGINEER
(Telephone Transmission Engineer;
Staff Engineer, Circuits)

Source:
Public Utility

Evaluates, specifies, and recommends circuit standards for central office, teletype, data switching systems, and similar equipment. Prepares circuit design development information and specifies circuit test equipment.

Qualification: Bachelor's degree in electrical engineering or extensive experience in the field.

VESSEL ENGINEER

Source:
Industrial or
Plant Construction

Prepares the mechanical design drawings and calculations for pressure vessels, tanks, ladders, and platforms. Performs the procurement engineering for commodities such as vessels, tanks, spheres, and vessel internals.

Qualification: Bachelor's degree in mechanical engineering, or the equivalent in experience.

WIRE TRANSMISSION ENGINEER

Source:
Public Utility

Compiles, analyzes, and develops wire transmission standards, practices, and engineering recommendations. Evaluates transmission items and devices, and provides staff assistance in wire transmission engineering objectives and problems.

Qualification: Bachelor's degree in electrical or mechanical engineering, or equivalent experience.

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